

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-096583

(43)Date of publication of application : 11.04.1995

(51)Int.Cl.

B32B 27/00

B32B 27/00

B32B 27/08

B32B 27/30

B32B 27/32

B65D 73/02

(21)Application number : 06-197182

(71)Applicant : DAINIPPON PRINTING CO LTD

(22)Date of filing : 01.08.1994

(72)Inventor : YAMASHITA RIKIYA

(30)Priority

Priority number : 05211034

Priority date : 04.08.1993

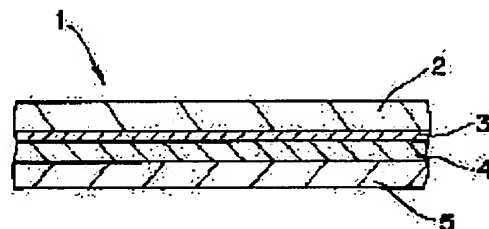
Priority country : JP

(54) COVER MATERIAL

(57)Abstract:

PURPOSE: To obtain a cover material having a high adhesion to a synthetic resin-made container and also a good releasability by providing a biaxially oriented resin layer, a heat sealant layer, and an intermediate layer composed of three or more kinds of resins specified in density and composition.

CONSTITUTION: A cover material 1 is provided with a biaxially oriented resin layer 2, an intermediate layer 4 and a heat sealant layer 5 which are laminated on the biaxially oriented resin layer 2 in order through an adhesive layer 3. The biaxially oriented resin layer 2 is made of a film of a polyester resin or the like, such as a polyethylene terephthalate. The intermediate layer 4 having a single-layer structure is made of three or more kinds of resins including an ethylene- α -olefin copolymer having a density of 0.95-0.940g/cm³, a styrene-butadiene block copolymer, block copolymer, and a styrene-butadiene block copolymer.



LEGAL STATUS

[Date of request for examination]

16.07.2001

[Date of sending the examiner's decision of rejection]

01.07.2003

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] It has a biaxial-stretching resin layer, a heat sealant layer, and the interlayer that adjoins this heat sealant layer and is located between said biaxial-stretching resin layer and said heat sealant layer. Said middle class is a consistency 0.915 - 0.940 g/cm³. Ethylene-alpha olefin copolymer, A 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer, Among the hydrogenation object of a 10 - 50 % of the weight of styrene, and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer, and high impact polystyrene, at least an ethylene-alpha olefin copolymer and a styrene-butadiene block copolymer Lid material characterized by being formed with three or more sorts of included resin.

[Claim 2] Said middle class is monolayer structure and is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section 10 - 50 % of the weight of styrene, and the hydrogenation object 5 of a 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections, Lid material according to claim 1 characterized by being formed with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 3] Said middle class is monolayer structure and is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section Lid material according to claim 1 characterized by being formed with the resin constituent with which the hydrogenation object 5 of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections are added.

[Claim 4] Said middle class is monolayer structure and is a consistency 0.915 - 0.940 g/cm³. Lid material according to claim 1 characterized by being formed to the 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 5] Said interlayer is two-layer structure with the 2nd resin layer which touches the 1st resin layer and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section Lid material according to claim 1 characterized by being formed with the resin constituent with which the hydrogenation object 5 of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections are added.

[Claim 6] Said interlayer is two-layer structure with the 2nd resin layer which touches the 1st resin layer and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section Lid material according to claim 1 characterized by being formed with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 7] Said interlayer is two-layer structure with the 2nd resin layer which touches the 1st resin layer and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an

ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section 10 - 50 % of the weight of styrene, and the hydrogenation object 5 of a 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections, Lid material according to claim 1 characterized by being formed with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 8] Said interlayer is a three-tiered structure with the 3rd resin layer which touches the 1st resin layer, the 2nd resin layer, and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, It is formed with a 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent. Said 3rd resin layer 10 - 90 % of the weight of ethylene-alpha olefin copolymers of a consistency 0.915 - 0.940 g/cm³, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section Lid material according to claim 1 characterized by being formed with the resin constituent with which the hydrogenation object 5 of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections are added.

[Claim 9] Said interlayer is a three-tiered structure with the 3rd resin layer which touches the 1st resin layer, the 2nd resin layer, and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, It is formed with a 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent. Said 3rd resin layer 10 - 90 % of the weight of ethylene-alpha olefin copolymers of a consistency 0.915 - 0.940 g/cm³, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section Lid material according to claim 1 characterized by being formed with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 10] Said interlayer is a three-tiered structure with the 3rd resin layer which touches the 1st resin layer, the 2nd resin layer, and said heat sealant layer. Said 1st resin layer is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer. Said 2nd resin layer is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, It is formed with a 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent. Said 3rd resin layer 10 - 90 % of the weight of ethylene-alpha olefin copolymers of a consistency 0.915 - 0.940 g/cm³, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section 10 - 50 % of the weight of styrene, and the hydrogenation object 5 of a 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections, Lid material according to claim 1 characterized by being formed with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added.

[Claim 11] Said heat sealant layer is lid material according to claim 1 to 10 characterized by containing at least one sort of polyester resin, polyurethane resin, vinyl chloride vinyl acetate copolymer resin, and acrylic resin.

[Claim 12] Said heat sealant layer is lid material according to claim 1 to 11 characterized by containing at least one sort of carbon black, a metal particle, a conductive particle, Si system organic compound, and a surfactant.

[Claim 13] Said heat sealant layer is lid material according to claim 1 to 12 characterized by for surface resistivity being within the limits which is 105-1012ohms, and the charge damping time being 2 or less seconds.

[Translation done.]

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the lid material which starts lid material, especially is used for the container made of synthetic resin.

[0002]

[Description of the Prior Art] Conventionally, various components, solid or liquefied food, etc. are held in the container made of synthetic resin, and sealing by lid material, circulating and keeping opening is performed.

[0003] For example, electronic parts are contained in each embossing section of the carrier tape on which much embossing was formed, and embossing carrier mold taping which carried out thermal melting arrival and sealed lid material (covering tape) on the carrier tape so that the embossing section might be covered is used. The carrier tape used for such embossing carrier mold taping is usually formed using the ingredient with easy sheet forming, such as a polyvinyl chloride, polystyrene, polyester, and a polycarbonate. Moreover, lid material is equipped with the heat sealant layer formed in one field of a biaxial-stretching resin film and this film. And in the mounting process of electronic parts, in order to take out the electronic parts contained by embossing carrier mold taping, it is required that lid material can exfoliate.

[0004]

[Problem(s) to be Solved by the Invention] However, although predetermined reinforcement is required so that lid material may exfoliate and omission of electronic parts may not produce the thermal melting arrival of the lid material to a carrier tape during transportation of embossing carrier mold taping, and storage. When this thermal melting arrival reinforcement was too large, there was a problem that the accident on which a carrier tape vibrates and electronic parts jump out of the embossing section of a carrier tape in the case of exfoliation of the lid material in the mounting process of electronic parts occurred. And in the above conventional lid material, what has the opposite property of sufficient thermal melting arrival nature to a carrier tape and the good detachability at the time of electronic-parts use does not yet exist.

[0005] This invention is made in view of such a situation, and aims at offering the lid material which combines the high adhesive property to the container made of synthetic resin, and good detachability.

[0006]

[Means for Solving the Problem] In order to attain such a purpose, this invention A biaxial-stretching resin layer and a heat sealant layer, It has the interlayer who adjoins this heat sealant layer and is located between said biaxial-stretching resin layer and said heat sealant layer. Said middle class is a consistency 0.915 - 0.940 g/cm³. Ethylene-alpha olefin copolymer, A 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer, Among the hydrogenation object of a 10 - 50 % of the weight of styrene, and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer, and high impact polystyrene, at least an ethylene-alpha olefin copolymer and a styrene-butadiene block copolymer It considered as a configuration which is formed with three or more sorts of included resin.

[0007]

[Function] Lid material adjoins a biaxial-stretching resin layer, a heat sealant layer, and this heat sealant layer, and is located between a biaxial extension resin layer and a heat sealant layer. A consistency 0.915 - 0.940 g/cm³ Ethylene-alpha olefin copolymer, A 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer, Among the hydrogenation object of a 10 - 50 % of the weight of styrene, and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer, and high impact polystyrene, at least an ethylene-alpha olefin copolymer and a styrene-butadiene block copolymer It has the interlayer formed with three or more sorts of included resin. Exfoliation between the

layers of this interlayer and a heat sealant layer, Or since exfoliation by the cohesive failure inside a heat sealant layer is possible, regardless of the thermal melting arrival reinforcement between a carrier tape and a heat sealant layer, it can carry out stably [exfoliation of lid material], and certainly.

[0008]

[Example] Hereafter, it explains, referring to a drawing about the example of this invention.

[0009] Drawing 1 is the outline sectional view of the lid material of this invention. The lid material 1 is equipped with the biaxial-stretching resin layer 2, and the interlayer 4 and the heat sealant layer 5 by which the laminating was carried out to the biaxial-stretching resin layer 2 through the glue line 3 at order in drawing 1.

[0010] The biaxial-stretching resin layer 2 can be formed with biaxially oriented films, such as polyamide resin, such as polyolefin resin, such as polyester resin, such as polyethylene terephthalate (PET), and polypropylene, and nylon. Thus, thermal resistance can be given to the lid material 1 by forming the biaxial-stretching resin layer 2. The thickness of the biaxial-stretching resin layer 2 can be suitably set up according to the purpose of using lid material, for example, can be set to about 6-100 micrometers. In addition, surface treatment, such as corona treatment, plasma treatment, and sandblasting processing, may be beforehand performed to the field in which the glue line 3 of this biaxial-stretching resin layer 2 is formed if needed, and an adhesive property with a glue line 3 may be raised to it. Moreover, what performed static electricity generating prevention processing if needed can be used.

[0011] A glue line 3 is 3 low density polyethylene and the consistency of 0.915-0.940g/cm. It can form with the adhesives of an ethylene-alpha olefin copolymer, a polyethylene vinyl acetate copolymer, an ionomer, polypropylene or the polyolefine that is either of those denaturation objects, an isocyanate system, and an imine system etc., and about 0.2-60 micrometers of thickness are desirable. a glue line 3 -- a biaxial-stretching resin film top -- spreading or extrusion molding -- it can carry out -- this glue line 3 top -- an interlayer 4 -- a dry lamination -- or an extrusion lamination can be carried out.

[0012] The middle class 4 is monolayer structure and is a consistency 0.915 - 0.940 g/cm³. It is formed with three or more sorts of resin which contains an ethylene-alpha olefin copolymer and a styrene-butadiene block copolymer at least among the hydrogenation object of an ethylene-alpha olefin copolymer, a 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer, and a 10 - 50 % of the weight of styrene, and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer, and high impact polystyrene.

[0013] The ethylene-alpha olefin copolymer used for the middle class's 4 formation is a copolymer of ethylene, and a butene, a pentene, a hexene, a heptene, octene and 4-methyl pentene and 1 grade etc. The consistency of such an ethylene-alpha olefin copolymer is 3 0.915g/cm. The following or 0.940g/cm³ When exceeding, the membrane formation nature of the interlayer 4 by combination with a styrene-butadiene block copolymer falls and is not desirable.

[0014] Moreover, if the adhesiveness of a film increases that the amount of styrene which constitutes the styrene-butadiene block copolymer used for the middle class's 4 formation is less than 50 % of the weight, and handling becomes difficult and it exceeds 90 % of the weight, adhesion with the heat sealant layer in low temperature worsens and is not desirable.

[0015] And the mixing ratio of the ethylene-alpha olefin copolymer and styrene-butadiene block copolymer in the middle class 4 influences greatly the peel strength at the time of exfoliating, after carrying out thermal melting arrival of the lid material 1 to the container made of synthetic resin, and the transparency of the lid material 1. Let the mixing ratios of the ethylene-alpha olefin copolymer and styrene-butadiene block copolymer in the middle class 4 be 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight of styrene-butadiene block copolymers in this invention. When a styrene-butadiene block copolymer exceeds [the amount of ethylene-alpha olefin copolymers] 70 % of the weight less than 30% of the weight, an interlayer's 4 membrane formation nature becomes low, and the transparency of lid material falls and is not desirable, either. On the other hand, the amount of ethylene-alpha olefin copolymers exceeds 70 % of the weight, when a styrene-butadiene block copolymer is less than 30 % of the weight, the adhesion force of an interlayer 4 and the heat sealant layer 5 is too small, and the peel strength of lid material is not less [fitness reinforcement], and desirable.

[0016] When using the hydrogenation object and high impact polystyrene of a styrene-butadiene block copolymer for the middle class 4 and forming with four sorts of resin, the 10 - 90 % of the weight of the above ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of styrene-butadiene block copolymers] resin constituent 100 weight section It is desirable to carry out 5-30 weight section addition of the hydrogenation object of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of

butadienes] styrene-butadiene block copolymer, and to carry out 5-50 weight section addition of the high impact polystyrene.

[0017] It becomes [the blocking resistance of the film which will be obtained if the effectiveness which adds the hydrogenation object of a styrene-butadiene block copolymer is not discovered and 30 weight sections are exceeded] inadequate and is not desirable when the content of the hydrogenation object of a styrene-butadiene block copolymer is under 5 weight sections. When it is not the hydrogenation object which was added as a hydrogenation object of a styrene-butadiene block copolymer in fact, since the butadiene component of this copolymer is high, that it is easy to oxidize, at the time of an interlayer's 4 formation, it is easy to generate gel and it becomes.

[0018] Moreover, when an anhydrous additive is used, membrane formation precision may be bad and film-izing may be difficult.

[0019] Moreover, if the effectiveness which adds high impact polystyrene is not discovered and 50 weight sections are exceeded when the addition of high impact polystyrene is under 5 weight sections, an interlayer's 4 transparency worsens and is not desirable.

[0020] Moreover, the above-mentioned middle class 4 may be formed to the 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of styrene-butadiene block copolymers] resin constituent 100 weight section with the resin constituent which carried out 5-30 weight section addition only of the hydrogenation object of a styrene-butadiene block copolymer, and contained three sorts of resin. Moreover, it may be formed to the 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of styrene-butadiene block copolymers] resin constituent 100 weight section with the resin constituent which carried out 5-50 weight section addition only of the high impact polystyrene, and contained three sorts of resin.

[0021] The thickness of such an interlayer 4 of monolayer structure usually has desirable about 10-60 micrometers. When an interlayer's thickness is less than 10 micrometers, if membrane formation nature is bad and exceeds 60 micrometers, the thermal melting arrival nature of the lid material 1 will worsen.

[0022] Moreover, the lid material 1 of this invention can make an interlayer 4 multilayer structure.

[0023] Drawing 2 is the outline sectional view showing the example of the lid material of this invention which made the interlayer two-layer structure, and the interlayer 4 consists of 1st resin layer 4a and 2nd resin layer 4b.

[0024] In this case, 1st resin layer 4a is a consistency 0.915 - 0.940 g/cm³. It can form with an ethylene-alpha olefin copolymer.

[0025] Moreover, 2nd resin layer 4b is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section It can form with the resin constituent with which the hydrogenation object 5 of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections are added. Furthermore, 2nd resin layer 4b is a consistency 0.915 - 0.940 g/cm³. It can also form to the 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added. Moreover, 2nd resin layer 4b is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section It can form with the resin constituent with which 10 - 50 % of the weight of styrene, the hydrogenation object 5 of a 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections, and high impact polystyrene 5 - 50 weight sections are added.

[0026] Such thickness of 1st resin layer 4a and 2nd resin layer 4b can be set to 5-30 micrometers and about 5-30 micrometers, respectively.

[0027] Drawing 3 is the outline sectional view showing the example of the lid material of this invention which made the interlayer the three-tiered structure, and the interlayer 4 consists of 3rd resin layer 4c which touches 1st resin layer 4a, 2nd resin layer 4b, and the heat sealant layer 5.

[0028] In this case, 1st resin layer 4a is a consistency 0.915 - 0.940 g/cm³. It is formed with an ethylene-alpha olefin copolymer and 2nd resin layer 4b is a consistency 0.915 - 0.940 g/cm³. It can form with a 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin

constituent.

[0029] And 3rd resin layer 4c is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section It is formed with the resin constituent with which the hydrogenation object 5 of a 10 - 50 % of the weight of styrene and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections are added. Moreover, 3rd resin layer 4c is a consistency 0.915 - 0.940 g/cm³. It can also form to the 10 - 90 % of the weight of ethylene-alpha olefin copolymers, and 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section with the resin constituent with which high impact polystyrene 5 - 50 weight sections are added. Furthermore, 3rd resin layer 4c is a consistency 0.915 - 0.940 g/cm³. 10 - 90 % of the weight of ethylene-alpha olefin copolymers, As opposed to the 70 - 30 % of the weight [of 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight / of butadienes / styrene-butadiene block copolymers] resin constituent 100 weight section It can also form with the resin constituent with which 10 - 50 % of the weight of styrene, the hydrogenation object 5 of a 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer - 30 weight sections, and high impact polystyrene 5 - 50 weight sections are added.

[0030] The thickness of such 1st resin layer 4a, 2nd resin layer 4b, and 3rd resin layer 4c can be set up in 3-20 micrometers, respectively.

[0031] The above interlayers 4 can form with a dry lamination process or an extrusion lamination process.

[0032] In case the lid material 1 by which thermal melting arrival was carried out to the container made of synthetic resin when the lid material 1 of this invention possessed the above interlayers 4 is exfoliated, the exfoliation between the layers of an interlayer 4 and the heat sealant layer 5 or exfoliation by the cohesive failure in the heat sealant layer 5 interior arises. The peel strength in this case is weaker than the thermal melting arrival reinforcement of the heat sealant layer 5 and the container made of synthetic resin which are mentioned later, and it is desirable that it is the range of 100-1200g / 15mm. If peel strength is set to 100g / less than 15mm, in case the container after carrying out thermal melting arrival of the lid material will be transported, the exfoliation between the layers of an interlayer 4 and the heat sealant layer 5 or exfoliation by the cohesive failure in the heat sealant layer 5 interior arises, and there is a danger that contents will drop out. Moreover, it is [a possibility that the container made of synthetic resin may vibrate and contents may jump out in the case of exfoliation of lid material] and is not desirable if peel strength exceeds 1200g / 15mm. In addition, the above-mentioned peel strength is the value of 180-degree exfoliation under 23 degrees C and 40%RH ambient atmosphere (exfoliation rate = a part for 300 mm/).

[0033] Therefore, the lid material 1 can exfoliate certainly from the container made of synthetic resin, after it made sufficiently high thermal melting arrival reinforcement to the container made of synthetic resin by the heat sealant layer 5 and it carries out thermal melting arrival.

[0034] It can be suitably chosen by controlling heat-sealing conditions whether the exfoliation between the layers of the above interlayers 4 and the heat sealant layer 5 (interlaminar peeling) is produced here or exfoliation by the cohesive failure in the heat sealant layer 5 is produced. That is, interlaminar peeling of an interlayer 4 and the heat sealant layer 5 can be produced by what the conditions at the time of heat sealing are made severe for (it is high in whenever [stoving temperature], and is long in heating time, and pressurization is strengthened), and exfoliation by the cohesive failure in the heat sealant layer 5 can be produced by making loose the conditions at the time of heat sealing. as the example of the above-mentioned heat-sealing conditions -- the case of interlaminar peeling -- whenever [stoving temperature] -- =140-200 degree C, heating time = 0.5 - 2.0 seconds, and pressurization =1.0 - 5.0 kgf/cm² extent -- it is -- the case of cohesive failure -- whenever [stoving temperature] -- =100-150 degree C, heating time = 0.1 - 1.0 seconds, and pressurization =0.5 - 3.0 kgf/cm² It is extent.

[0035] The heat sealant layer 5 of the lid material 1 of this invention is formed with the thermoplastics which consists of at least one sort of polyester resin, polyurethane resin, vinyl chloride vinyl acetate copolymer resin, and acrylic resin. As a combination of two or more sorts of thermoplastics For example, the mixed resin of polyurethane resin and vinyl chloride vinyl acetate copolymer resin (a mixed ratio has the desirable range of 9:1-4:6), The mixed resin of polyester resin and vinyl chloride vinyl acetate copolymer resin (a mixed ratio has the desirable range of 1:1 to 9.5:0.5), The mixed resin (a mixed ratio has the desirable range of 1:1 to 9.5:0.5) of acrylic resin and vinyl chloride vinyl acetate copolymer resin etc. can be mentioned.

[0036] Moreover, the heat sealant layer 5 can be made to contain the conductive particle which gave

conductivity to sulfides, such as the conductive particle which gave conductivity to metallic oxides, such as metal particles, such as carbon black, gold, silver, nickel, aluminum, and copper, tin oxide, a zinc oxide, and titanium oxide, the conductive particle which gave conductivity to the barium sulfate, zinc sulfide, copper sulfide, a cadmium sulfide, a nickel sulfide, and sulfuration palladium, Si system organic compound, a surfactant, etc. In this case, as for the mixed ratio of a thermoplastics, a conductive particle, etc. in the heat sealant layer 5, it is desirable that it is the range of 10:1-1:10. If the effectiveness which mixes a conductive particle etc. as mixed ratios, such as a conductive particle, are under the above-mentioned range is not acquired and the above-mentioned range is exceeded, the thermal melting arrival reinforcement of the heat sealant layer 5 to the container made of synthetic resin becomes low too much and is not desirable.

[0037] In addition, especially the thickness of the heat sealant layer 5 has the desirable range of 1-5 micrometers 0.1-10 micrometers.

[0038] The charge damping time which is within the limits of 105-1012 ohms, and it takes for the surface resistivity to decline 99% from 5000V under 23**5 degrees C and 12**3%RH to the bottom of 22 degrees C and 40%RH is 2 or less seconds, and such a heat sealant layer 5 has the outstanding static electricity property. When the above-mentioned surface low effectiveness exceeds 1012 ohms, the static electricity spreading effect gets extremely bad, and it becomes difficult to protect electronic parts from the static electricity destruction, and it is 105. When it becomes under omega, the electrical and electric equipment may energize from the exterior to electronic parts through lid material, and there is a danger that electronic parts will be destroyed electrically. On the other hand, when the charge damping time which is the standard of the diffusion rate of the charge generated with static electricity exceeds 2 seconds, the static electricity spreading effect gets extremely bad, and it becomes difficult to protect electronic parts from the static electricity destruction. In addition, above-mentioned surface resistivity and the above-mentioned charge damping time can be measured based on MIL-B-81705C which is U.S. Military Standard.

[0039] The heat sealant layer 5 can be made to contain additives, such as a distributed stabilizer and an antiblocking agent, if needed.

[0040] Spreading formation of the above heat sealant layers 5 can be carried out on an interlayer 4.

[0041] And since the exfoliation between the layers of an interlayer 4 and the heat sealant layer 5 or exfoliation by the cohesive failure in the heat sealant layer 5 interior produces the lid material 1 of this invention, it has the detachability ability stabilized without being influenced by the thermal melting arrival conditions to the container made of synthetic resin. Such interlaminar peeling is explained with reference to drawing 4 thru/or drawing 7. First, as shown in drawing 4 and drawing 5, thermal melting arrival of the lid material 1 as shown in the carrier tape 11 equipped with the embossing section 12 at drawing 1 is carried out. This thermal melting arrival is performed to the both ends of the embossing section 12 in the shape of Rhine by predetermined width of face. In the example of illustration, the slash section has shown the Rhine-like thermal melting arrival part H. In this condition, the range of the adhesion reinforcement of the interlayer 4 of the lid material 1 and the heat sealant layer 5 or the disruptive strength of the heat sealant layer 5 is 100-1200g / 15mm, and it is small from the thermal melting arrival reinforcement of the heat sealant layer 5 and the carrier tape 11. Next, in case it exfoliates from the carrier tape 11, when interlaminar peeling of the above-mentioned interlayer 4 and the heat sealant layer 5 produces the lid material 1, as shown in drawing 6, in the Rhine-like thermal melting arrival part H, thermal melting arrival of the heat sealant layer 5 is carried out to the carrier tape 11, and exfoliation produces it between the layers of an interlayer 4 and the heat sealant layer 5. Therefore, the lid material 1 exfoliates, where the Rhine-like thermal melting arrival part H is left on a carrier tape among the heat sealant layers 5. While thermal melting arrival of a part of heat sealant layer 5 had been carried out to the carrier tape 11 in the Rhine-like thermal melting arrival part H on the other hand as shown in drawing 7 when having exfoliated from the carrier tape 11 and exfoliation by the cohesive failure of the heat sealant layer 5 above-mentioned interior produced the lid material 1, as a part is removed with the lid material 1, exfoliation in the heat sealant layer 5 interior arises. Therefore, regardless of the thermal melting arrival reinforcement of the heat sealant layer 5 and the carrier tape 11, the lid material 1 exfoliates according to the disruptive strength of the heat sealant layer 5.

[0042] That is, the lid material 1 of this invention has the opposite property [say / the high thermal melting arrival nature to the carrier tape 11, and the easy detachability at the time of exfoliation].

[0043] As a container made of synthetic resin set as the use object of the lid material of above this inventions A polyvinyl chloride (PVC), polystyrene (PS), polyester (A-PET) PEN, PET-G, PCTA, polypropylene (PP), a polycarbonate (PC), Containers made of resin, such as a polyacrylonitrile (PAN) and acrylonitrile-butadiene-styrene copolymer (ABS), Or the impalpable powder made from electric conduction which gave the product made from electric conduction, Si system organic compound, and a surfactant can

be scoured as a cure against static electricity to metallic oxides, such as a conductive carbon particle, a metal particle, tin oxide, and a zinc oxide, titanium oxide, or what was applied can be mentioned to these. Moreover, the thing in which the compound sheet plastic which comes to carry out the laminating of PS system, ABS system resin film, or sheet containing carbon black by the co-extrusion in one was formed to one side or both sides of PS system resin sheet or an ABS system resin sheet is also mentioned. Or the thing which made the conductive polymer form in a plastic film front face can also be mentioned as conductive processing.

[0044] Next, the example of an experiment is shown and the lid material of this invention is further explained to a detail.

(Example of an experiment) As a biaxial-stretching resin layer, the biaxial-stretching polyethylene terephthalate (PET) film (12 micrometers in S pet 6140 by Toyobo Co., Ltd. and thickness, corona treatment article) was prepared. Moreover, the polyethyleneimine solution (product made from NIPPON SHOKUBAI Chemistry P-100) was prepared as adhesives. Furthermore, low density polyethylene (LDPE) (Myra Son 16 made from Mitsui Petrochemistry-P) was prepared as a glue line.

[0045] in order [next,] to form the middle class -- the following line as an ethylene-alpha olefin copolymer -- low density polyethylene (L-LDPE) -- And the following S-B copolymer as a 70 - 90 % of the weight of styrene, and 30 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer (S-B copolymer), The following S-B copolymer hydrogenation object and high impact polystyrene (HIPS) were prepared as a hydrogenation object of a 20 - 50 % of the weight of styrene, and 80 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer (S-B copolymer). Moreover, the following S.B-block elastomer was prepared as a non-hydrogenation object of a 20 - 50 % of the weight of styrene, and 80 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer (S-B copolymer).

[0046] L-LDPE :Mitsui Petrochemical Industries, Ltd. make -- ULTZEX 3550A consistency =0.925 g/cm³ S-B copolymer: -- Asa FREX by Asahi Chemical Industry Co., Ltd. 810 S-B copolymer hydrogenation object: -- tough tech [by Asahi Chemical Industry Co., Ltd.] H1041HIPS : Styron by Asahi Chemical Industry Co., Ltd. 475DS, and B block elastomer: -- tough PUREN A by Asahi Chemical Industry Co., Ltd. -- next The interlayer (30 micrometers in monolayer structure, thickness) was first formed after applying adhesives to a PET film using such each ingredient on the mixed conditions shown in the following table 1 through a LDPE layer (20 micrometers in thickness) by the extrusion lamination process. Then, on the middle class, the coating liquid for heat sealant layers of the following presentation was applied by the gravure reversing method, the heat sealant layer (2 micrometers in thickness) was formed, and lid material (samples 1-11, comparison samples 1-5) was created.

(Presentation of the coating liquid for heat sealant layers)

Polyurethane resin (NIPPORAN 5120 made from Japanese Polyurethane Industry) -- 30 Weight section Vinyl chloride vinyl acetate copolymer resin (Union Carbide vinylite VAGH) -- The 7.5 weight sections Conductive impalpable powder (conductivity particle T-1 by MITSUBISHI MATERIALS CORP.) -- The 62.5 weight sections [0047]

[Table 1]

表 1

蓋 材	中 間 層 の 組 成				
	L・LDPE	S・B 共重合体	S・B 共重合体 水素添加物	H I P S	S・B ブロック エラストマー
試料 1	7 5	2 5	1 0	--	--
試料 2	7 5	2 5	1 0	2 0	--
試料 3	7 0	3 0	1 0	--	--
試料 4	7 0	3 0	1 5	3 0	--
試料 5	6 0	4 0	--	1 0	--
試料 6	6 0	4 0	1 0	1 0	--
試料 7	6 0	4 0	1 5	2 5	--
試料 8	5 0	5 0	1 0	1 0	--
試料 9	5 0	5 0	1 5	5 0	--
試料 1 0	4 0	6 0	1 5	3 0	--
試料 1 1	4 0	6 0	1 0	2 0	--
比較試料 1	1 0 0	--	--	--	1 0 0
比較試料 2	1 0 0	--	--	1 0 0	--
比較試料 3	--	1 0 0	4 0	6 0	--
比較試料 4	--	1 0 0	3 0	3 0	--
比較試料 5	1 0 0	--	--	--	--

*表 1 中の数値は重量部を示す。

Moreover, the interlayer (30 micrometers in two-layer structure, thickness) as formed the 2nd layer (15 micrometers in thickness) of the presentation first shown in the 1st layer (12 micrometers in thickness) which becomes a PET film from a L-LDPE layer through a LDPE layer (20 micrometers in thickness) after applying adhesives with an extrusion lamination process, and the following table 2 using each above ingredient and shown in drawing 2 was formed. Then, on the middle class, the coating liquid for heat sealant layers of the above-mentioned presentation was applied by the gravure reversing method, the heat sealant layer (2 micrometers in thickness) was formed, and lid material (samples 12-17, comparison samples 6-8) was created.

[0048]

[Table 2]

表 2

蓋 材	中 間 層 (第 2 層) の 組 成				
	L・LDPE	S・B 共重合体	S・B 共重合体 水素添加物	H I P S	S・B ブロック エラストマー
試料 1 2	7 5	2 5	1 0	--	--
試料 1 3	7 5	2 5	1 0	2 0	--
試料 1 4	6 0	4 0	--	1 0	--
試料 1 5	6 0	4 0	1 5	2 5	--
試料 1 6	4 0	6 0	1 5	3 0	--
試料 1 7	4 0	6 0	1 0	2 0	--
比較試料 6	1 0 0	--	--	--	1 0 0
比較試料 7	--	1 0 0	4 0	6 0	--
比較試料 8	--	1 0 0	3 0	3 0	--

*表 1 中の数値は重量部を示す。

Each above ingredient is used. First Furthermore, after applying adhesives to a PET film, an interlayer (a three-tiered structure --) as formed the 2nd layer (10 micrometers in thickness) of the presentation shown in the 1st layer (10 micrometers in thickness) which consists of a L-LDPE layer through a LDPE layer (20

micrometers in thickness) with a knockout lamination process, and the following table 3, and the 3rd layer (10 micrometers in thickness) and shown in drawing 3 30 micrometers in thickness were formed. Then, on the middle class, the coating liquid for heat sealant layers of the above-mentioned presentation was applied by the gravure reversing method, the heat sealant layer (2 micrometers in thickness) was formed, and lid material (samples 18-25, comparison samples 9-12) was created.

[0049]

[Table 3]

表 3

蓋 材	中間層（第2層、第3層）の組成						
	第 2 層		第 3 層				
	L・LDPE	S・B 共重合体	L・LDPE	S・B 共重合体	S・B 共重合体 水素添加物	HIPS	S・B ブロック エラストマー
試料 18	75	25	75	25	10	--	--
試料 19	60	40	75	25	10	--	--
試料 20	40	60	75	25	10	--	--
試料 21	60	40	75	25	10	20	--
試料 22	60	40	60	40	--	10	--
試料 23	60	40	60	40	15	25	--
試料 24	60	40	40	60	15	30	--
試料 25	60	40	40	60	10	20	--
比較試料 9	100	--	100	--	--	--	100
比較試料 10	--	100	100	--	--	--	100
比較試料 11	100	--	--	--	--	--	--
比較試料 12	100	--	--	100	40	60	--

*表 1 中の数値は重量部を示す。

Next, total light transmission, surface resistivity, and the charge damping time were measured on condition that the following whenever [haze] about each above-mentioned lid material (samples 1-25, comparison samples 1-12). Moreover, thermal melting arrival of each above-mentioned lid material was carried out to the conductive polyvinyl chloride resin base material (product made from Peace Chemistry XEG47) on two sorts of following conditions using the heat-sealing bar, and peel strength was measured on condition that the following after that.

(Measuring condition of whenever [haze], and total light transmission) It measured in color computer SM [by Suga Test Instruments Co., Ltd.]-5SC.

(Measuring condition of surface resistivity) It measured by Huy Lester IP by Mitsubishi Petrochemical Co., Ltd. under 22 degrees C and 40%RH.

(Measuring condition of the charge damping time) The time amount taken to decrease 99% from 5000V under 23**5 degrees C and 12**3%RH is based on MIL-B-81705C, and it is STATIC DECAY METER-406C made from ETS (Electro-Tech Systems, Inc). It measured.

(Thermal melting arrival conditions)

** : -- the bottom of 150 degrees C, 0.5 seconds, 3.0 kgf/cm2 **:140 degree C, 0.4 seconds, 1.0 kgf/cm2

(Measuring condition of peel strength) 23 degree C, and 40%RH -- setting -- made in Oriental Baldwin -- tensilon universal testing machine HTH-100 It measured. (Exfoliation rate = part 180-degree exfoliation for 300 mm/)

The measurement result and exfoliation gestalt of the above-mentioned item about each lid material were shown in the following table 4.

[0050]

[Table 4]

表 4

蓋 材	へース度 (%)	全光線 透過率(%)	表面 抵抗率 (Ω)	電荷減 衰時間 (秒)	剥離強度 (g/15mm)	剥離形態 条件①	剥離形態 条件②
試料 1	60~70	80~90	10^6	0.1	375	層間剥離	凝集破壊 1
試料 2	60~70	80~90	10^6	0.1	500	層間剥離	凝集破壊 1
試料 3	60~70	80~90	10^6	0.1	770	層間剥離	凝集破壊 1
試料 4	60~70	80~90	10^6	0.1	750	層間剥離	凝集破壊 1
試料 5	60~70	80~90	10^6	0.1	780	層間剥離	凝集破壊 1
試料 6	60~70	80~90	10^6	0.1	790	層間剥離	凝集破壊 1
試料 7	60~70	80~90	10^6	0.1	800	層間剥離	凝集破壊 1
試料 8	60~70	80~90	10^6	0.1	930	層間剥離	凝集破壊 1
試料 9	60~70	80~90	10^6	0.1	1000	層間剥離	凝集破壊 1
試料 10	60~70	80~90	10^6	0.1	900	層間剥離	凝集破壊 1
試料 11	60~70	80~90	10^6	0.1	950	層間剥離	凝集破壊 1
試料 12	60~70	80~90	10^6	0.1	375	層間剥離	凝集破壊 1
試料 13	60~70	80~90	10^6	0.1	500	層間剥離	凝集破壊 1
試料 14	60~70	80~90	10^6	0.1	780	層間剥離	凝集破壊 1
試料 15	60~70	80~90	10^6	0.1	800	層間剥離	凝集破壊 1
試料 16	60~70	80~90	10^6	0.1	900	層間剥離	凝集破壊 1
試料 17	60~70	80~90	10^6	0.1	950	層間剥離	凝集破壊 1
試料 18	60~70	80~90	10^6	0.1	375	層間剥離	凝集破壊 1
試料 19	60~70	80~90	10^6	0.1	375	層間剥離	凝集破壊 1
試料 20	60~70	80~90	10^6	0.1	375	層間剥離	凝集破壊 1
試料 21	60~70	80~90	10^6	0.1	500	層間剥離	凝集破壊 1
試料 22	60~70	80~90	10^6	0.1	780	層間剥離	凝集破壊 1
試料 23	60~70	80~90	10^6	0.1	800	層間剥離	凝集破壊 1
試料 24	60~70	80~90	10^6	0.1	900	層間剥離	凝集破壊 1
試料 25	60~70	80~90	10^6	0.1	950	層間剥離	凝集破壊 1
比較試料 1	60~70	80~90	10^6	0.1	820	層間剥離	凝集破壊 1
比較試料 2	60~70	80~90	10^6	0.1	1300	凝集破壊 2	凝集破壊 2
比較試料 3	60~70	80~90	10^6	0.1	1600	凝集破壊 2	凝集破壊 2
比較試料 4	60~70	80~90	10^6	0.1	1800	凝集破壊 2	凝集破壊 2
比較試料 5	60~70	80~90	10^6	0.1	20	層間剥離	界面剥離
比較試料 6	60~70	80~90	10^6	0.1	820	層間剥離	凝集破壊 1
比較試料 7	60~70	80~90	10^6	0.1	1600	凝集破壊 2	凝集破壊 2
比較試料 8	60~70	80~90	10^6	0.1	1800	凝集破壊 2	凝集破壊 2
比較試料 9	60~70	80~90	10^6	0.1	820	層間剥離	凝集破壊 1
比較試料 10	60~70	80~90	10^6	0.1	820	層間剥離	凝集破壊 1
比較試料 11	60~70	80~90	10^6	0.1	1600	凝集破壊 2	凝集破壊 2
比較試料 12	60~70	80~90	10^6	0.1	1800	凝集破壊 2	凝集破壊 2

* 剥離形態…層間剥離：中間層とヒートシーラント層との界面で剥離が生じ、基材にヒートシーラント層が残る形態。

界面剥離：基材面とヒートシーラント層との間で剥離が生じる形態。

凝集破壊 1：ヒートシーラント層内部が破壊され剥離される形態。

凝集破壊 2：中間層内部が破壊され剥離される形態。

[0051]

[Effect of the Invention] As explained in full detail above, the interlayer who according to this invention adjoins the heat sealant layer which constitutes lid material, and is located between a biaxial-stretching resin layer and a heat sealant layer A consistency 0.915 - 0.940 g/cm³ Ethylene-alpha olefin copolymer, A 50 - 90 % of the weight of styrene, and 50 - 10 % of the weight [of butadienes] styrene-butadiene block copolymer, Among the hydrogenation object of a 10 - 50 % of the weight of styrene, and 90 - 50 % of the weight [of butadienes] styrene-butadiene block copolymer, and high impact polystyrene, at least an ethylene-alpha olefin copolymer and a styrene-butadiene block copolymer The exfoliation between the layers of an interlayer and a heat sealant layer since it is formed with three or more sorts of included resin, in case lid material is exfoliated, Or while the exfoliation by the cohesive failure inside a heat sealant layer arose and this had maintained the adhesive property with a high heat sealant layer, good detachability can be acquired and a setup of the thermal melting arrival conditions to the container made of synthetic resin of lid material becomes easy.

[Translation done.]

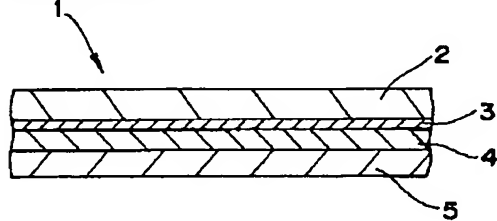
* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

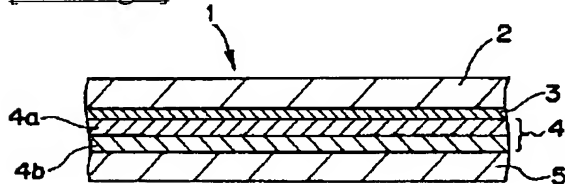
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

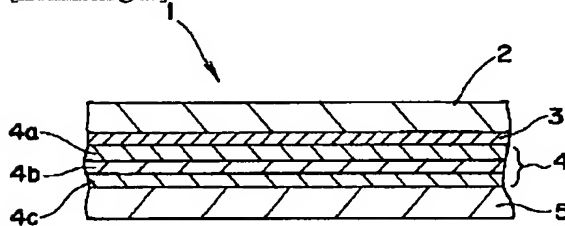
[Drawing 1]



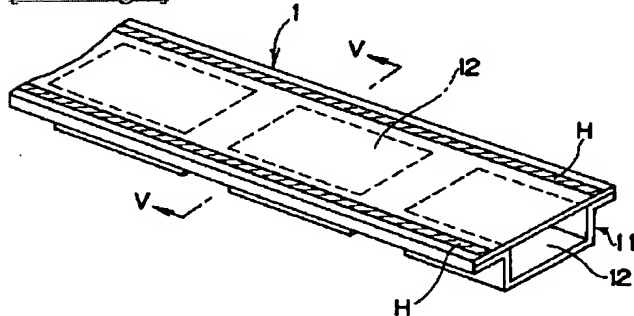
[Drawing 2]



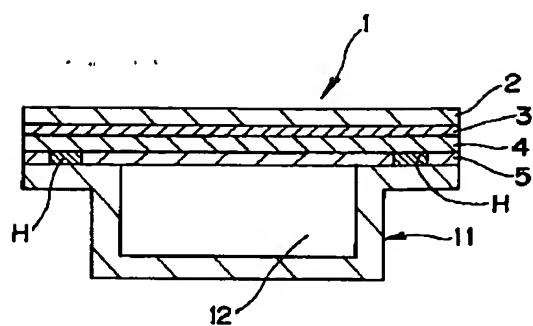
[Drawing 3]



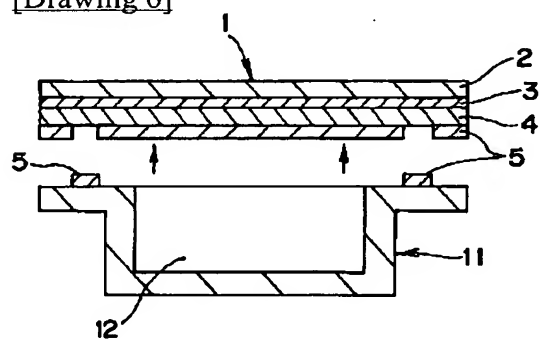
[Drawing 4]



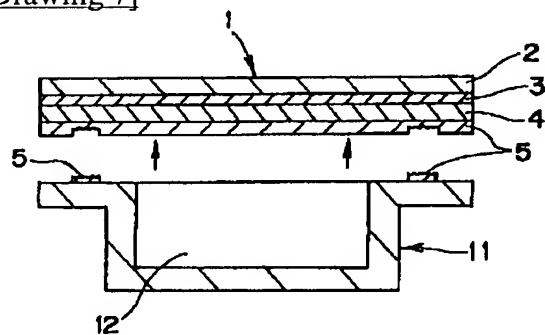
[Drawing 5]



[Drawing 6]



[Drawing 7]



[Translation done.]